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David J. Bradley, Clerk

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF TEXAS
GALVESTON DIVISION

SANDBOX LOGISTICS LLC, <i>et al</i> ,	§
	§
Plaintiffs,	§
VS.	§ CIVIL ACTION NO. 3:16-CV-12
	§ CIVIL ACTION NO. 4:17-CV-589
GRIT ENERGY SOLUTIONS LLC, <i>et al</i> ,	§
	§
Defendants.	§

MEMORANDUM OPINION ON CLAIM CONSTRUCTION

On March 1, 2018, the Court held a *Markman* hearing at which the parties proposed meanings for several terms that are used in the patents at issue in this litigation and that the parties have asked the Court to construe. *See Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996) (“[T]he construction of a patent, including terms of art within its claim, is exclusively within the province of the court.”). The parties have also filed thorough and well-written briefing. Having carefully considered the parties’ arguments, the evidence, and the applicable law, the Court construes the disputed claim terms as stated below. For the sake of clarity, the plaintiffs will be referred to collectively as “Sandbox,” and the defendants will be referred to collectively as “Grit.”

I. LEGAL STANDARD GOVERNING CLAIM CONSTRUCTION

The claims of a patent define the scope of the patented invention and function to forbid “not only exact copies of an invention, but products that go to the heart of an invention [while avoiding] the literal language of the claim by making a noncritical change.” *Id.* at 373–74 (citations and quotation marks omitted). Claim construction is “a

way of elaborating the normally terse claim language in order to understand and explain, but not to change, the scope of the claims.” *Embrex, Inc. v. Service Engineering Corp.*, 216 F.3d 1343, 1347 (Fed. Cir. 2000) (brackets and quotation marks omitted).

Claim construction requires a determination as to how a person of ordinary skill in the relevant art would understand a claim term in the context of the entire patent, including the specification and prosecution history, at the time of invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313–14 (Fed. Cir. 2005). “There is a heavy presumption that claim terms are to be given their ordinary and customary meaning.” *Aventis Pharm. Inc. v. Amino Chems. Ltd.*, 715 F.3d 1363, 1373 (Fed. Cir. 2013). “Properly viewed, the ‘ordinary meaning’ of a claim term is its meaning to the ordinary artisan after reading the entire patent.” *Phillips*, 415 F.3d at 1321.

The Court begins its analysis by considering the language of the claims themselves but must keep in mind that “claims must be read in view of the specification, of which they are a part.” *Id.* at 1314–15 (quotation marks omitted). The specification, being “the single best guide to the meaning of a disputed term[,]” is “always highly relevant to the claim construction analysis” and will “usually” be “dispositive[.]” *Id.* at 1315. The Court should also consider the patent’s prosecution history, if that history is in evidence. *Id.* at 1317. The prosecution history “represents an ongoing negotiation between the [Patent and Trademark Office] and the applicant” and, as a result, “often lacks the clarity of the specification[;]” but, nevertheless, it “can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than

it would otherwise be.” *Id.* Put another way, “[t]he best source for understanding a technical term is the specification from which it arose, informed, as needed, by the prosecution history.” *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1478 (Fed. Cir. 1998). The Court may also rely on “extrinsic” evidence, which is defined as “all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises[;]” but extrinsic evidence is generally seen “as less reliable than the patent and its prosecution history in determining how to read claim terms[.]” *Phillips*, 415 F.3d at 1317–18 (quotation marks omitted).

With respect to many of the claim terms at issue, Sandbox calls for the Court to construe the terms in accordance with their “plain and ordinary meaning[s.]” Sandbox highlights the Federal Circuit’s statement that “the specification and prosecution history [of a patent] only compel departure from the plain meaning [of a term] in two instances: lexicography and disavowal.” *GE Lighting Solutions, LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014). A district court must apply an “exacting” standard in determining whether a patentee has acted as its own lexicographer or limited its claims by disavowal (which is sometimes referred to as “disclaimer”). *Id.* Lexicography requires a clear expression by the patentee of an intent to define the claim term, while a determination of disavowal (or disclaimer) requires a clear indication by the specification or prosecution history that the invention does not include a particular feature. *Id.* However, “clear,” the Federal Circuit has noted, does not always mean “explicit.” *Trs. of Columbia Univ. in City of N. Y. v. Symantec Corp.*, 811 F.3d 1359, 1363 (Fed. Cir. 2016) (“Our case law does not require explicit redefinition or disavowal.”).

Grit counters Sandbox’s “plain and ordinary meaning” arguments by contending that the relevant patents’ specifications and prosecution histories demonstrate that Sandbox did in fact limit its claims by “describ[ing] its invention narrowly in the patent specifications and during the prosecution of its applications” in order “[t]o obtain patent protection over a crowded field” (Dkt. 111 at p. 9).¹ Sandbox’s claim construction proposals, Grit’s argument continues, are an impermissible attempt “to expand the scope of [Sandbox’s patent] protection by proposing undefined ‘plain and ordinary meanings’ of terms” (Dkt. 111 at p. 9) (some brackets omitted). The Federal Circuit has indeed emphasized that the doctrine of disavowal exists to prevent a patentee from unfairly broadening its patent protection once a patent has been secured. *Aylus Networks, Inc. v. Apple Inc.*, 856 F.3d 1353, 1360 (Fed. Cir. 2017) (“Ultimately, the doctrine of prosecution disclaimer ensures that claims are not construed one way in order to obtain their allowance and in a different way against accused infringers.”) (quotation marks omitted).

II. THE PATENTS AT ISSUE

Four patents form the basis of this litigation. Those patents deal with containers for and methods of storing, transporting, and unloading proppant in hydraulic fracturing operations. The patent numbers at issue are: 9,296,518 (“the ‘518 patent”); 9,403,626 (“the ‘626 patent”); 9,511,929 (“the ‘929 patent”); and 9,440,785 (“the ‘785 patent”). At the *Markman* hearing, the parties grouped the first three patents together and discussed the ‘785 patent separately. The Court will group the patents in the manner in which the

¹ All record citations correspond to the docket numbers in case number 4:17-CV-589.

parties did in their *Markman* presentations and will address the terms in the order in which the parties did in their *Markman* presentations.

III. THE ‘518, ‘626, AND ‘929 PATENTS

The parties have asked the Court to conduct nine constructions related to the ‘518, ‘626, and ‘929 patents. Grit has also argued that a claim contained in the ‘626 and ‘929 patents is indefinite.

- 1. The term “adjacent” in claim 13 of the ‘626 and ‘929 patents: The Court concludes that a person of ordinary skill in the art would understand the phrase “moving the first container to a position adjacent the second container” in claim 13 to mean placing the two containers in a stacked configuration.**

The parties first contest the meaning of the term “adjacent” as it is used in the phrase “moving the first container to a position adjacent the second container.” *See* Claim 13 of the ‘626 and ‘929 patents. Sandbox argues that the term “adjacent” should be given its “plain and ordinary meaning,” which is set forth in the fourth edition of *Webster’s New World College Dictionary* as “near or close.” In response, Grit argues that the term “adjacent,” as used in the context of claim 13, must actually mean “above.” To support its proposed construction, Grit points to diagrams and language in the patent specifications that, according to Grit, indicate that claim 13 of the ‘626 and ‘929 patents only claims a method of discharging proppant onto a portable conveyor belt from a stacked configuration of multiple ocean freight containers, meaning that Sandbox’s specifications have disclaimed any definition of “adjacent” in claim 13 that is not “above” or “below.”

Grit’s argument regarding the language of claim 13 has force. The intrinsic evidence shows that the stacked configuration of multiple ocean freight containers is

essential to the inventions claimed in the ‘626 and ‘929 patents. The patents emphasize how the stacking of multiple ocean freight containers eliminates the need for special proppant storage facilities, going so far as to say that, “[b]ecause of this stacking arrangement, special proppant storage facilities are not required at the fracturing site” (Dkt. 103-4 at p. 13) (emphasis added). According to the patents, special proppant storage facilities entail “a large capital investment” that can now be avoided because a “stacking arrangement” of “two containers, three containers, or more . . . provides a suitably modular arrangement whereby a proppant storage facility can be easily constructed on-site” (Dkt. 103-4 at pp. 11, 13). Then, “[a]fter the fracturing operation is completed, the containers can be easily removed from this stacked configuration and transported to another location” (Dkt. 103-4 at p. 13).

During the fracturing operation, when the proppant needs to be taken out of storage and transported to the fracturing site, the ocean freight containers remain stacked during the unloading of the proppant. One of the stated objects of the invention, as a matter of fact, is “to provide a proppant storage assembly which allows proppant to be efficiently removed from a stacked configuration of containers” (Dkt. 103-4 at p. 12).

And a section of the patents entitled “Detailed Description of the Invention” reads:

FIG. 2 shows an end view of the proppant storage assembly of the present invention showing of the present invention [sic]. In FIG. 2, it can be seen that the first container is spaced from the second container. The second container is suitably spaced from the third container. The bottom hatch of the first container is openable so that the proppant within the first container can be discharged through the hatch onto a portable conveyor. The portable conveyor can be easily transported to a location below the hatch of the first container so as to allow the proppant from the containers to be transported to another location. *Each of the containers is vertically aligned in a stacked*

orientation. The first container has a capacity for storing 100,000 pounds of proppant. The second container and the third container can store 30,000 pounds of proppant. As such, a very large amount of proppant can be provided to the fracturing site, in a simple easy and convenient manner. Dkt. 103-4 at pp. 13–14 (emphasis added; numbers corresponding to accompanying diagram omitted).

Just as the passage quoted above describes, Figure 2 of the patents shows three stacked ocean freight containers with a portable conveyor belt beneath them (Dkt. 103-4 at p. 8). Figure 1 of the patent, which depicts in great detail the mechanics of the gravity-driven path along which the proppant flows from the higher containers to the lower containers when it is unloaded from the temporary storage facility, also shows three stacked ocean freight containers (Dkt. 103-4 at p. 7). Figure 1 and Figure 2 are the only drawings that depict multiple ocean freight containers; the other drawings show the composition of the individual containers and depict how those containers are modified to store and discharge large quantities of proppant (Dkt. 103-4 at pp. 9–10).

Further, the ‘518, ‘626, and ‘929 patents all open with a “Field of the Invention” section that reads:

The present invention relates to storage containers. More particularly, the present invention relates to storage container assemblies whereby a product in one container can flow to an interior volume of a lower container.

Dkt. 103-4 at p. 11; Dkt. 111-2 at p. 9; Dkt. 111-3 at p. 10.

Taken in conjunction with the diagrams and other language in the specifications, the “Field of the Invention” section strongly indicates that the first container it describes is stacked atop the second, “lower” container. Indeed, Claim 13 itself recites:

[a] method for delivering large volumes of proppant to a fracturing site, the method comprising . . . positioning a first container [and] *stacking a second container . . . in a vertically stacked positioned [sic] above the first*

container . . . to allow proppant to flow therefrom [to] the first container [and] from the first container onto a conveyor positioned at an elevation below the first [container] and the second [container].
(Dkt. 103-4 at p. 16) (emphasis added).

In short, whenever the specifications depict multiple ocean freight containers, whether verbally or visually, they do so in a stacked configuration; and the patent specifications repeatedly tout that stacked configuration as an advantage and distinction of the described invention that makes possible the modular construction of a temporary proppant storage facility from which the proppant can be easily and efficiently removed and transported via conveyor to the fracturing site. Additionally, the patents' prosecution history specifically distinguishes prior art on the basis that the prior art did not involve stacked containers:

Claim 29 is being amended with this paper to clarify that the spacer is elongate and that is for supporting another container that is above the container. What is identified in Glewee et al. '232 as being a spacer is merely a member set between *lateral* containers and not containers that are *vertically stacked*. Thus this feature of claim 29 is not taught by Glewee et al. '232.

Dkt. 111-5 at p. 10 (all emphasis in original).

In the Campbell patent, it is intended that a nozzle 13 be applied of the circular bottom opening so as to allow for the discharge of material from the interior of the container. As such, the Campbell patent would not be configured so as to allow for a stacked arrangement of such containers whereby the proppant from an upper container can be discharged into and through the top hatch of a lower container so as to fill the interior volume of the lower container.

Dkt. 111-7 at p. 12.

"[W]hen the scope of the invention is clearly stated in the specification, and is described as the advantage and distinction of the invention, it is not necessary to disavow explicitly a different scope." *On Demand Mach. Corp. v. Ingram Indus., Inc.*, 442 F.3d

1331, 1340 (Fed. Cir. 2006). Moreover, “the patentee’s choice of preferred embodiments can shed light on the intended scope of the claims.” *Astrazeneca AB v. Mutual Pharmaceutical Co., Inc.*, 384 F.3d 1333, 1340 (Fed. Cir. 2004). The language and diagrams contained in the specifications lead the Court to conclude that a person of ordinary skill in the relevant art would understand the phrase “moving the first container to a position adjacent the second container” in claim 13 to mean placing the two containers in a stacked configuration. *See Boss Control, Inc. v. Bombardier, Inc.*, 410 F.3d 1372, 1376–79 (Fed. Cir. 2005) (“Because the specification makes clear that the invention involves a two-stage interrupt mode, the intrinsic evidence binds Boss to a narrower definition of ‘interrupt’ than the extrinsic evidence might support.”); *see also On Demand*, 442 F.3d at 1339–40 (holding that the district court erred in using the dictionary definition of “customer” when the patent “specification repeatedly reinforce[d] its usage of the term ‘customer’ as the retail consumer”— “[T]he focus of the Ross patent is immediate single-copy printing and binding initiated by the customer and conducted at the customer’s site. The district court’s definition of ‘customer’ cannot eliminate these constraints in order to embrace the remote large-scale production of books for publishers and retailers.”). This conclusion is reinforced by the patents’ prosecution history, in which Sandbox distinguished prior art on the basis that the prior art did not involve stacked containers. *See Trs. of Columbia Univ.*, 811 F.3d at 1368 (“In other words, what distinguished the invention from the prior art is that it could predict whether a registry access was malicious from a model that was built using only normal data. . . . The district

court's conclusion that the model of the #084 and #306 patents must be built with only attack-free normal data is correct.”).

2. The term “bottom” in the ‘518, ‘626, and ‘929 patents and the term “top” in the ‘626 and ‘929 patents: The Court concludes that a person of ordinary skill in the art would understand the terms “bottom” and “top” to mean “bottom wall” and “top wall.”

The Court will address the next two terms, “bottom” and “top,” together. Sandbox argues that both terms should be given their “broad” plain and ordinary meanings, while Grit argues that the two terms must be construed as referring to top and bottom walls, “consistent with the inventor’s view of the invention as a modified shipping container” (Dkt. 111 at pp. 15, 23; Dkt. 118 at pp. 17–18).

Again, Grit’s argument has force. The specification language of the patents emphasizes that the principal goal of this invention is to facilitate the modular construction of a temporary proppant storage facility with modified ocean freight containers—the patents even say that “[e]ach of the containers is [an] ocean freight container” (Dkt. 103-4 at p. 12). The specification language goes on to explain that the use of modified ocean freight containers carries particular advantages in that the containers are easily transportable, stackable, and interchangeable:

In the configuration shown in FIG. 1, volumes of proppants can be easily stored at the fracturing site. It is only necessary to stack each of the containers upon one another in the manner described in FIG. 1. Each of the containers has an exterior configuration similar to that of an ocean freight container. As such, these containers can be easily transported on the bed of a truck, on a freight train or on a ship to the desired location.

...

The present invention provides a suitably modular arrangement whereby a proppant storage facility can be easily constructed on-site. After the fracturing operation is completed, the containers can be easily removed from this stacked configuration and transported to another location. Similarly, if desired, the containers can be suitably replaced by another container so as to provide the desired proppant to the fracturing site. Dkt. 103-4 at p. 13 (numbers corresponding to accompanying diagram omitted).

As previously mentioned, Figure 1 of the patent depicts in great detail the mechanics of the gravity-driven path along which the proppant flows from the higher containers to the lower containers when it is unloaded from the temporary storage facility. The containers shown in Figure 1, just like the ocean freight containers from which they are derived, have top and bottom walls; hatches in these top and bottom walls swing open to form a “unique and guided flowpath” that allows the proppant to flow “efficiently” and “directly” from the higher containers to the lower ones and ultimately from the lowest container onto a portable conveyor belt (Dkt. 103-4 at pp. 12–13). A smaller version of Figure 1 is also included on the front page of the patent below the abstract, which describes the containers as “having a first end wall, a second end wall, a first side wall, a second side wall, a top wall and a bottom wall” (Dkt. 103-4 at p. 2).

The description of the modular units as modified ocean freight containers also pervades the portions of the prosecution history that are in evidence. During the patent prosecution, Sandbox stated to the patent examiner that, “[i]n order to accommodate such a large amount of proppant weight, the configuration of a standard twenty foot ISO container must be modified in an extreme manner and adapted to the particular purposes associated with such proppant” (Dkt. 111-7 at p. 9). The described modification,

according to the prosecution history, “adds unique qualities to the standard twenty foot ISO container” that allow the container to accommodate the proppant (Dkt. 111-7 at p. 10). Sandbox then distinguished prior art on the basis that “the prior art patents would not address a technique for converting a twenty foot ISO container for the purpose of containing a large amount of proppant material therein” (Dkt. 111-7 at pp. 15–16). In another exchange, the patent examiner labeled a claim “vague on the basis [that] the term ‘ocean freight container’ was deemed unclear” (Dkt. 111-5 at p. 9). Sandbox responded by providing the patent examiner with the URL to a webpage listing “various sizes [of] ocean freight containers” (Dkt. 111-5 at p. 9). Based on that webpage, Sandbox “respectfully submit[ted]” that the term “ocean freight container” is “known and understood to those skilled in the art and is therefore clear” (Dkt. 111-5 at p. 9). It appears that the URL is no longer operational; but the record contains a screen capture of the referenced webpage, which shows 20- and 40-foot standard intermodal shipping containers as well as a 40-foot “hi-cube” shipping container (Dkt. 111-6 at pp. 2–5).² In yet another filing, Sandbox again distinguished prior art on the basis that the prior art “would only contain relatively light weight material” and that as a result “there would be no need to include structures that would enhance the structural integrity of a 20 foot ISO container” (Dkt. 111-9 at p. 18).

² The screen capture also shows other types of shipping containers, which are labeled “reefer container”; “bin”; “platform”; “flatrack”; and “open top container.” The intrinsic evidence provides no indication that Sandbox intended for the term “ocean freight container” to encompass these other types of containers. Unlike the standard intermodal shipping containers, the other types of containers are not repeatedly discussed elsewhere in the patent specification and the prosecution history.

“[W]hen the scope of the invention is clearly stated in the specification, and is described as the advantage and distinction of the invention, it is not necessary to disavow explicitly a different scope.” *On Demand*, 442 F.3d at 1340. Moreover, “the patentee’s choice of preferred embodiments can shed light on the intended scope of the claims.” *Astrazeneca*, 384 F.3d at 1340. The Court concludes from its review of the specification and prosecution history that a person of ordinary skill in the art would understand that the modular units used to construct the temporary proppant storage facility are modified standard intermodal shipping containers, which have top walls and bottom walls. By extension, the Court concludes that a person of ordinary skill in the art would understand the terms “bottom” and “top” to mean “bottom wall” and “top wall.” *See Boss Control*, 410 F.3d at 1376–79; *On Demand*, 442 F.3d at 1339–40; *Trs. of Columbia Univ.*, 811 F.3d at 1368.

3. **The term “hatch” in the ‘518, ‘626, and ‘929 patents: The Court concludes that a person of ordinary skill in the art would understand the term “hatch” to mean “a cover for an opening that opens outward and that is movable between a first position overlying the opening and a second position forming one right angle with the opening.”**

The parties next contest the meaning of the term “hatch.” Sandbox argues that the term should be given its “plain and ordinary meaning,” while Grit argues that the term should be construed as meaning “a hinged cover for an opening.” The specification and prosecution history lead the Court to conclude that the proper construction of the term “hatch” is somewhat more particular than either construction proposed by the parties.

The specification describes the hatches as crucial to the formation of the gravity-driven path along which the proppant flows from the higher containers to the lower

containers when it is unloaded from the temporary storage facility. Specifically, the top hatch of one container combines with the bottom hatch of the container above to help “form a unique and guided flowpath” for the proppant. As the specification makes clear, the creation of the “flowpath” is possible because each hatch opens outward and is capable of resting in a position that forms one right angle with the opening that the hatch covers when closed. Hence, when both hatches are open, they can rest “generally parallel” to each other, forming a path from the interior of the higher container to that of the lower container:

In particular, in FIG. 1, it can be seen that the first container has a hatch extending over the opening thereof. In particular, the hatch is hingedly mounted to the top wall of the first container so as to be movable between a closed position and an open position (illustrated in broken-line fashion). In particular, the bottom hatch of the second container will extend downwardly perpendicularly to the bottom wall. Similarly, the top hatch of the first container will extend upwardly in generally transverse relationship to the top wall. The hatches will be in generally parallel relationship in this configuration. As such, the hatches will form a unique and guided flowpath whereby the proppant in the interior volume of the second container can flow directly into the opening and into the interior volume of the first container. The length dimension of the hatches will be less than the distance between the top wall of the first container and the bottom wall of the second container.

Dkt. 103-4 at p. 13 (numbers corresponding to accompanying diagram omitted).

The Court further notes that Sandbox also used the hatches and the flowpath they create to distinguish and claim an advantage over prior art:

The prior art combination of the Campbell patent, the Shuert patent, the Elstone patent, Areddy patent and the Meritt patent would not suggest to one having ordinary skill in the art the arrangement of the top hatch and the bottom hatch in which the top hatch and the bottom hatch are in parallel spaced relationship to each other when they are in the open position. As such, the prior art combination would fail to provide the function of a

guided flow path for the proppant between the upper container and the lower container. The prior art combination would fail to show or suggest the advantage of the present invention of avoiding any dispersal of the proppant through such a discharging relationship.

Dkt. 111-9 at p. 22.

“[W]hen the scope of the invention is clearly stated in the specification, and is described as the advantage and distinction of the invention, it is not necessary to disavow explicitly a different scope.” *On Demand*, 442 F.3d at 1340. Moreover, “the patentee’s choice of preferred embodiments can shed light on the intended scope of the claims.” *Astrazeneca*, 384 F.3d at 1340. The Court concludes from its review of the specification and prosecution history that a person of ordinary skill in the art would understand the term “hatch” to mean “a cover for an opening that opens outward and that is movable between a first position overlying the opening and a second position forming one right angle with the opening.” *See Boss Control*, 410 F.3d at 1376–79; *On Demand*, 442 F.3d at 1339–40; *Trs. of Columbia Univ.*, 811 F.3d at 1368.

4. The term “coupled to” in the ‘626 and ‘929 patents: The Court concludes that a person of ordinary skill in the art would understand the term “coupled to” to mean “directly attached to.”

The parties next contest the meaning of the term “coupled to” in the phrases “sidewalls coupled to and extending between the top and bottom” and “sidewalls coupled to the top and bottom.” Sandbox argues that the term “coupled to” should be given its “plain and ordinary meaning,” while Grit argues that the term should be construed as meaning “directly attached to.”

As discussed above, the Court has concluded from its examination of the patent specification and the prosecution history that the principal goal of this invention is to

facilitate the modular construction of a temporary proppant storage facility with modified ocean freight containers because such containers are easily transportable, stackable, and interchangeable. The prosecution history shows that Sandbox argued to the patent examiner that the term “ocean freight container” is well-known to persons of ordinary skill in the art as referring to an intermodal shipping container. With that in mind, the Court has already construed the terms “top” and “bottom” to mean “top wall” and “bottom wall.” The sidewalls of an ocean freight container are directly attached to the top wall and the bottom wall, as would be the sidewalls of a container emulating an ocean freight container. The Court concludes that a direct connection between the sidewalls and the top and bottom walls is necessary to achieve the principal goal of the invention. As a result, the Court concludes that a person of ordinary skill in the art would understand the term “coupled to” to mean “directly attached to.” *See OPTi, Inc. v. Advanced Micro Devices, Inc.*, No. 2:07-CV-278, 2009 WL 2424029, at *8 (E.D. Tex. Aug. 5, 2009) (“It is precisely the direct connection of the signal lines to the host platform that drives the number of pins whose reduction is a principal goal of the patent. Accordingly, the court construes the term ‘coupling’ to mean ‘directly connecting.’”) (emphasis removed).

5. The term “arranging spacers” in the ‘626 and ‘929 patents: The Court concludes that no construction of this term is necessary.

The parties next contest the meaning of the term “arranging spacers” in claim 14 of the ‘626 and ‘929 patents. Sandbox argues that the term “arranging spacers” should be given its “plain and ordinary meaning,” while Grit argues that the term should be construed as meaning “placing spacers.” The language of claim 14 reads:

The method of claim 13, comprising arranging spacers between the first and second containers to provide clearance for the first open position. Dkt. 103-4 at p. 16.

Grit argues that construing “arranging spacers” as “placing spacers” clarifies that claim 14 “requires the additional step of placing spacers between the containers” (Dkt. 111 at p. 38).

The Court sees no need to construe this term. The specification painstakingly spells out the role of the spacers in the invention:

A first spacer is positioned on the top wall of the first container and extends upwardly therefrom. The first spacer abuts the bottom wall of the second container. A second spacer is positioned on the top wall of the first container and extends upwardly therefrom. The second spacer abuts the bottom wall of the second container. The first spacer is in spaced relationship to the second spacer. The spacers serve to assure a proper distance between the containers whereby the hatches can be properly opened so as to allow for the flow of proppant therebetween.

...

Suitable spacers serve to support the bottom wall of the third container a proper distance above the top wall of the second container.

Dkt. 103-4 at p. 13 (numbers corresponding to accompanying diagram omitted).

It is obvious that the spacers go between the stacked containers so that there is sufficient clearance between the containers for the hatches to open. The Court is not convinced that the term “arranging spacers” in claim 14 calls for construction and, for that matter, sees no material difference between the phrases “arranging spacers” and “placing spacers.” The Court declines to construe this term.

6. The term “support braces” in the ‘518, ‘626, and ‘929 patents and the term “structural supports” in the ‘626 and ‘929 patents: The Court concludes that a person of ordinary skill in the art would understand the

terms “support braces” and “structural supports” to refer to structural fortifications made to an existing ocean freight container that do not materially alter the shape of the container, but the Court declines to construe the terms further.

The Court will address the next two terms, “support braces” and “structural supports,” together. Sandbox argues that both terms should be given their plain and ordinary meanings, while Grit argues that the two terms must be construed as referring to “distinct structures [that] are affixed to opposing sidewalls” (Dkt. 111 at p. 27).

These phrases make several appearances in the patents. For the “support braces” phrase, those appearances are typified by Claim 1 of the ‘929 patent, which in relevant part reads:

A container structurally strengthened to transport and store large volumes of proppant effectively therein to supply to a fracturing site, the container comprising:

...

a plurality of sidewall supports positioned to provide structural support to the sidewalls when large volumes of proppant are positioned within the interior volume of the container[,] the plurality of sidewall supports including a plurality of support braces extending in a substantially horizontal position and positioned in direct contact with interior surfaces of the sidewalls to enhance support of the sidewalls when the container is filled with the proppant[. T]he plurality of support braces includes a first set of support braces attached to a first pair of sidewalls and a second set of support braces attached to a second pair of sidewalls, the first set of support braces extending in a plane direction transverse to a plane direction of the second set of support braces[.]

Dkt. 103-4 at p. 15.

For the “structural supports” phrase, those appearances are typified by Claim 7 of the ‘929 patent, which in relevant part reads:

A system structurally strengthened to transport and store large volumes of proppant effectively therein, the system comprising:

a first container comprising:

...

a first plurality of structural supports positioned to provide structural support to the first plurality of sidewalls when large volumes of proppant are positioned within the first interior volume[;]

...

a second container positioned below the first container,
the second container comprising:

...

a second plurality of structural supports positioned to provide structural support to the second plurality of sidewalls when large volumes of proppant are positioned within the second interior volume[.]

Dkt. 103-4 at p. 15.

The Court concludes from its review of the specification and prosecution history that these claims describe structural fortifications made to existing ocean freight containers that do not materially alter the shape of the containers. The Court has already discussed how the specification and prosecution history describe the use of modified ocean freight containers as modular units with which a temporary proppant storage facility can be constructed. The claims quoted above—which, again, typify the use of the terms “support braces” and “structural supports” in the patents—describe ways to ensure that those modified containers are sufficiently “structurally strengthened to transport and store [the] large volumes of proppant” that are needed at a fracturing site (Dkt. 103-4 at p. 15). As a passage from the prosecution history puts it:

In order to accommodate such a large amount of proppant weight, the configuration of a standard twenty foot ISO container must be modified in an extreme manner and adapted to the particular purposes associated with such proppant. As such, the present invention utilizes the first support brace, the second support brace, the first support member and the second support member in a unique manner so as to assure that the container is able to withstand such great weight.

Dkt. 111-7 at p. 9.

That said, the descriptions of fortifying modifications provided in the patent specification strike the Court as exemplary rather than exclusive in nature because the patent specification discusses alternative methods of bracing the sidewalls of the ocean freight container. The specification first proposes welding a brace to the two end walls and a brace to the two sidewalls to provide “rigid structural support” to all four walls (Dkt. 103-4 at p. 14). The specification then proposes adding “another support brace extending between the side walls” before further noting that, “[w]ithin the concept of the present invention, various other support braces, in the nature of angle irons, can be utilized so as to suitably support the structure of the container” (Dkt. 103-4 at p. 14). In other words, the specification and prosecution history describe structurally strengthened and stacked ocean freight containers with hatches on the tops and bottoms capable of opening at right angles as advantages and distinctions of the invention, but they do not discernibly describe one particular method of structurally strengthening those containers as an advantage and distinction of the invention. The Court thus concludes that a person of ordinary skill in the art would understand the terms “support braces” and “structural supports” to refer to structural fortifications made to an existing ocean freight container

that do not materially alter the shape of the container, but the Court declines to construe the terms further.

7. The term “support members” in the ‘518, ‘626, and ‘929 patents: The Court concludes that a person of ordinary skill in the art would understand the term “support members” to refer to structural fortifications that reinforce inclined surfaces that are added to the interior of an existing ocean freight container, but the Court declines to construe the term further.

The parties next contest the meaning of the term “support members.” According to the patent claims and specifications, the “support members” fortify the ramps that help direct the proppant toward the hatches of the containers so that the ramps can “withstand the weight and forces imparted thereto by the proppant” (Dkt. 103-4 at p. 14). The claims of the ‘518 patent describe “support members that extend between the bottom [of the container] and inclined surfaces [that form the ramps]” (Dkt. 111-2 at p. 13). The claims of the ‘626 and ‘929 patents describe “a plurality of support members attached to a bottom surface of the ramps and extending downwardly toward the bottom [of the container]” (Dkt. 103-4 at p. 15). Sandbox argues that the term “support members” should be given its “plain and ordinary meaning,” while Grit argues that the term should be construed as requiring that the support members be “directly attached to” the bottom surfaces of the ramps.

The diagrams of Sandbox’s patents exclusively show support members that are directly attached to the bottom surfaces of the ramps, but no party contends that the patent claims and specification impose a “direct attachment” requirement on the support members. Grit draws its argument for such a requirement from statements made by

Sandbox during an inter partes review (“IPR”) proceeding in which Sandbox purportedly disavowed support members that are not directly attached to the bottoms of the ramps. Specifically, Sandbox distinguished a piece of prior art, the “Claussen” patent, by noting that:

[t]here is no disclosure in Claussen of a container that includes support members that attach to a bottom surface of the inclined surfaces of the containers (ramps) and extend down to the bottom of the container.
Dkt. 11-19 at p. 10.

Sandbox further noted that:

Claussen does not disclose any embodiment in which what [Grit] alleges are “support members” are attached *directly* to an inclined surface.
Dkt. 111-19 at p. 11 (emphasis added).

Sandbox argues that these statements, in context, were meant to distinguish the Claussen patent on a different basis, namely “that Claussen does not disclose support members that are attached to the ramps at all, either directly or indirectly” (Dkt. 118 at p. 38).

In the IPR proceeding, the parties argued sharply over the teachings of Claussen. The Claussen patent describes an invention in which one or more containers, which may be tapered at the bottom, can be removably mounted on a frame (Dkt. 111-20 at pp. 3–23). According to the Claussen specification, “the frame may include [a] lower container support apparatus to support the one or more containers from the lower portions of the one or more containers and [an] upper container support apparatus to support the one or more containers from the upper portions of the one or more containers” (Dkt. 111-20 at p. 17) (numbers corresponding to accompanying diagram omitted). In the IPR proceeding,

Grit argued that the Claussen patent's diagrams show two angled components of the frame that teach "support members" as described in Sandbox's patents; notably, these angled components, which appear to connect the "lower container support apparatus" to the rest of the frame, are not expressly discussed in the Claussen patent's specification or claim language. Sandbox's IPR briefing vigorously contested Grit's characterization, arguing that, because the Claussen containers are removable from the frame, the Claussen angled components are "part of the *frame* and not the *container* [and] are therefore not support members as claimed [by Grit]" (Dkt. 111-21 at pp. 7-8) (emphasis added). Grit countered by pointing out that the Claussen patent contemplates, though it does not describe or depict, an embodiment in which "the container and the frame [are] a single, continuous piece" instead of being separable (Dkt. 111-20 at p. 15). Sandbox replied that, even in such a "single, continuous piece" embodiment, the angled components in Claussen, if they were part of the embodiment at all, would by all indications be designed "merely [to] hold [the] lower container support apparatus . . . in place" and not to strengthen the container itself (Dkt. 111-21 at p. 11).

Despite the above-quoted references to attachment in Sandbox's IPR briefing, the Court does not see Sandbox's IPR statements as clearly disavowing support members that are not directly attached to the ramps. The main thrust of Sandbox's argument in the IPR proceeding was evidently that, while Sandbox's support members are specifically intended to buttress internal ramps that constitute an important element of its modified ocean freight container, Claussen's angled components (which are never explicitly discussed in the Claussen patent) help strengthen a frame that is separate from (and

indeed typically separable from) a storage container that may or may not be tapered but either way does not have (or need) internal ramps. Put another way, Sandbox was arguing not that its support members strengthen ramps better than Claussen's angled components but that Claussen's angled components do not strengthen ramps at all.³ Claussen's specification does not even describe "ramps" in the sense that Sandbox's does; the Claussen patent describes containers that, again, may or may not be tapered at the bottom but regardless do not feature ramps like the ones shown in the Sandbox patents. At bottom, the excerpts from the IPR proceedings to which Grit cites are not clear enough, in the full context of the specification and prosecution history, to constitute a disclaimer of claim scope. *See Avid Tech., Inc. v. Harmonic, Inc.*, 812 F.3d 1040, 1045 (Fed. Cir. 2016) ("Where the alleged disavowal is ambiguous, or even amenable to multiple reasonable interpretations, we have declined to find prosecution disclaimer.") (quotation marks omitted).

"The party seeking to invoke prosecution history disclaimer bears the burden of proving the existence of a clear and unmistakable disclaimer that would have been evident to one skilled in the art." *Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1063–64 (Fed. Cir. 2016) (quotation marks omitted). Grit has not met that burden. The specification and prosecution history of Sandbox's patents do not contain a clear

³ The diagrams in the Claussen patent only show two angled components connected to the frame, regardless of whether the frame is holding one container (which if tapered would have four inclined surfaces) or two containers (which if tapered would between them have eight inclined surfaces) (Dkt. 111-20 at pp. 3–12). The diagrams help explain Sandbox's argument in the IPR proceeding that the angled components exist to provide support for the frame rather than the containers, whether or not those containers are tapered; and in doing so the diagrams bolster Sandbox's argument to this Court that its IPR statements do not constitute a clear disclaimer of support members that are not directly attached to the ramps in its containers.

disavowal of support members that are not directly attached to the ramps in its containers. The Court thus concludes that a person of ordinary skill in the art would understand the term “support members” to refer to structural fortifications that reinforce inclined surfaces that are added to the interior of an existing ocean freight container, but the Court declines to construe the term further.

8. Claim 18 of the ‘626 patent and claim 18 of the ‘929 patent are not indefinite.

Grit argues that two claims, one in each of the ‘626 and ‘929 patents, are indefinite. Grit’s rationale is the same as to both claims: the phrase “a plurality of support members attached to a bottom surface of the ramps and extending downwardly toward the bottom” is recited twice.

A patent specification must conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as the invention. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S.Ct. 2120, 2124 (2014). “[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Id.* Patents are presumed to be valid, and the burden of establishing invalidity of a patent (or its individual claims) rests on the challenger. 35 U.S.C. § 282; *Nautilus*, 134 S.Ct. at 2130 n. 10.

The two allegedly indefinite claims are identical. In relevant part, they read:

A container structurally strengthened to transport and store large volumes of proppant effectively therein, the container comprising:

...

ramps downwardly inclined and extending inwardly from the sidewalls to direct the proppant toward the outlet when the proppant is stored therein, *a plurality of support members attached to a bottom surface of the ramps and extending downwardly toward the bottom*, and at least one support brace of the plurality of support braces being positioned vertically higher than the ramps; [and]

a plurality of support members attached to a bottom surface of the ramps and extending downwardly toward the bottom[.]

Dkt. 103-4 at p. 16 (emphasis added).

Grit argues that “[t]hese claims are indefinite because there is no objective basis for determining if they require at least two or four support members” (Dkt. 111 at p. 37).

In response, Sandbox argues, among other things, that, “[i]f the phrase were only in the claim once, it would require more than one support member (i.e. a plurality) and, when repeated, it still requires a ‘plurality’ of support members” (Dkt. 103 at p. 42).

The Court agrees with Sandbox. Generally, the term “plurality” does not mean “two;” it means “more than one.” *Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1373–74 (Fed. Cir. 2005) (“This reference defines the invention to encompass a plurality of blades, thus eschewing any numerical limit on the number of blades.”) (quotation marks omitted); *see also Pictometry Int’l Corp. v. Geospan Corp.*, No. 13-2359, 2014 WL 4232246, at *8 (D. Minn. Aug. 26, 2014) (“In this case, the ‘133 Patent describes a ‘plurality’ of modes which include the four identified above. Nothing in the claim language or specification prevents Claim 17 from covering a system with additional measurement modes, including a mode allowing for simple distance measurements or measurements conducted above ground.”). The Court sees nothing in the specification or

prosecution history indicating that Sandbox disavowed that meaning or limited the definition of “plurality” to “two.” Even with the repeated phrase included, Claim 18 simply claims “more than one support member attached to a bottom surface of the ramps and extending downwardly toward the bottom.” The challenged claims do not fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention. They are not indefinite.

IV. THE ‘785 PATENT

The parties have asked the Court to conduct three constructions related to the ‘785 patent.

- 1. Sandbox’s amendments to the claims in the ‘785 patent disclaimed conveying proppant during the discharge of proppant, but Sandbox did not clearly and unmistakably surrender conveying proppant before all of the proppant in the containers has been discharged.**

The first requested claim construction stems from claims 1, 9, and 16 of the ‘785 patent. In relevant part, the ‘785 patent describes a proppant delivery system that consists of containers positioned above a conveyor belt. Claim 1 claims “[a] method of unloading fracking proppant at a well site[,]” the last two steps of which are:

discharging by gravity feed the fracking proppant contained within each of the plurality of proppant containers when positioned on the support structure and within the plurality of cradles from the outlet positioned at a bottom of each of the plurality of proppant containers so that the fracking proppant passes onto the common conveyor; and

conveying the fracking proppant away from the plurality of proppant containers, after the discharging of the fracking proppant onto the common conveyor, toward a desired location at the well site where hydraulic fracking is to be performed so that the fracking proppant is introduced to fracking fluid for passage into a wellbore at the well site.

Dkt. 103-3 at pp. 17–18 (letter “d” between steps omitted).

Claim 9 claims “[a] method for storing and unloading of fracking proppant at a well site[,]” the last two steps of which are:

selectively opening one or more of the outlets of the plurality of proppant containers to discharge by gravity feed the fracking proppant from the outlet positioned at the bottom of each the [sic] plurality of containers so that the fracking proppant passes onto the conveyor; [and]

conveying the fracking proppant away from the plurality of proppant containers toward a desired location at the well site where hydraulic fracking is to be performed so that the fracking proppant is introduced to fracking fluid for passage into a wellbore at the well site.

Dkt. 103-3 at pp. 18–19 (letter “e” between steps omitted).

Claim 16 claims “[a] method for controlling the unloading of fracking proppant at a well site[,]” the last two steps of which are:

selectively moving one or more flow gates from a closed to an open position to allow fracking proppant to pass from the plurality of hoppers to the conveyor at a desired flow rate; [and]

conveying the fracking proppant away from the plurality of proppant containers toward a desired location at the well site where hydraulic fracking is to be performed so that the fracking proppant is introduced to fracking fluid for passage into a wellbore at the well site.

Dkt. 103-3 at pp. 19–20 (letter “d” between steps omitted).

The prosecution history of the ‘785 patent reveals that these claims underwent significant amendments before they reached their final, above-quoted form. Initially, all of the claims contained language indicating that the final step—“conveying the fracking proppant away from the plurality of containers”—was to take place “during discharge of the fracking proppant” (Dkt. 111-28 at pp. 4, 6, 9). The patent examiner rejected the claims “as failing to comply with the written description requirement” of 35 U.S.C. § 112:

The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for pre-AIA the inventor(s), at the time the application was filed, had possession of the claimed invention. *Support for the conveying step occurring during discharge of the fracking proppant could not be found in the original disclosure.*

Dkt. 111-31 at p. 4 (emphasis added).

In response to the rejection, Sandbox “respectfully disagree[d]” with the patent examiner’s assessment but amended the claims to remove the “during discharge” language from the claims’ “conveying” paragraphs (Dkt. 111-28 at pp. 4, 6, 9, 12). Sandbox also added the phrase “after the discharging of the [fracking proppant]” to Claim 1’s “conveying” paragraph (Dkt. 111-28 at p. 4). The amendments to the claims’ “conveying” paragraphs read as follows, with excised language struck through and added language underlined:

Claim 1:

conveying the fracking proppant away from the plurality of containers, ~~during discharge of the after the discharging of the~~ fracking proppant and after passing onto the common conveyor, toward a desired location at the well site where hydraulic fracking is to be performed so that the fracking proppant is introduced to fracking fluid for passage into a wellbore at the well site.

Dkt. 111-28 at p. 4.

Claim 9:

conveying the fracking proppant away from the plurality of containers ~~during discharge of the fracking proppant and after passing onto the conveyor toward~~⁴ a desired location at the well site where hydraulic fracking is to be performed so that the fracking proppant is introduced to fracking fluid for passage into a wellbore at the well site.

⁴ The inclusion of the word “toward” in this excision was inadvertent, and Sandbox fixed it in a subsequent amendment (Dkt. 111-29 at p. 7).

Dkt. 111-28 at p. 6.

Claim 16:

conveying the fracking proppant away from the plurality of containers ~~during discharge of the fracking proppant and after passing onto the conveyor~~ toward a desired location at the well site where hydraulic fracking is to be performed so that the fracking proppant is introduced to fracking fluid for passage into a wellbore at the well site.

Dkt. 111-28 at p. 9.

After Sandbox removed the “during discharge” language from the claims’ “conveying” paragraphs, the patent examiner allowed the claims. Grit argues that Sandbox’s removal of the “during discharge” language from the claims’ “conveying” paragraphs constitutes a disclaimer of conveying during discharge. Grit then extends that argument and further contends that “[t]he step of discharging *all* proppant must be completed before the step of conveying begins” (Dkt. 111 at p. 44) (emphasis added).

The Court agrees with Grit’s first contention but not its second. An applicant can certainly disavow claim scope by amending claims during prosecution, but the Federal Circuit has repeatedly emphasized that the disclaimer must be “clearly and unambiguously express[ed].” *Arendi S.A.R.L. v. Google LLC*, 882 F.3d 1132, 1135–36 (Fed. Cir. 2018); *see also United Video Props., Inc. v. Amazon.com, Inc.*, 561 F. App’x 914, 917 (Fed. Cir. 2014); *MarcTec, LLC v. Johnson & Johnson*, 394 F. App’x 685, 687 (Fed. Cir. 2010). In making its determination of how far Sandbox’s disclaimer goes, the Court also draws guidance from the discussions of the relationship between prosecution history estoppel and the doctrine of equivalents that can be found in both Federal Circuit and Supreme Court precedent:

Whether prosecution history estoppel applies to a particular argument, and thus whether the doctrine of equivalents is available for a particular claim limitation, is a question of law. Where an amendment narrows the scope of the claims, and that amendment is adopted for a substantial reason related to patentability, the amendment gives rise to a presumption of surrender for all equivalents that reside in the territory between the original claim and the amended claim.

...

The applicability of prosecution history estoppel does not completely bar the benefit of the doctrine of equivalents from all litigation related to the amended claim. The scope of the estoppel must fit the nature of the narrowing amendment. A district court must look to the specifics of the amendment and the rejection that provoked the amendment to determine whether estoppel precludes the particular doctrine of equivalents argument being made.

Intervet Inc. v. Merial Ltd., 617 F.3d 1282, 1290–91 (Fed. Cir. 2010) (citations and quotation marks omitted).

“There is no reason why a narrowing amendment should be deemed to relinquish equivalents . . . beyond a fair interpretation of what was surrendered.” *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 737–38 (2002).

The record contains scant information about the circumstances surrounding Sandbox’s removal of the “during discharge” language from the claims’ “conveying” paragraphs—the relevant communications between the patent examiner and Sandbox, in their entirety, consist of the examiner’s statement that “[s]upport for the conveying step occurring during discharge of the fracking proppant could not be found in the original disclosure” and Sandbox’s reply expressing “respectful[] disagree[ment]” with that statement but nevertheless amending the claims to remove the “during discharge” language. The Court can glean from the record that Sandbox’s amendments surrendered conveying during discharge in order to secure Sandbox’s patent. *See United Video*

Properties, 561 F. App'x at 917. However, it does not necessarily follow that Sandbox surrendered conveying before *all* proppant in the containers is discharged. Neither the patent examiner nor Sandbox said anything to that effect. Moreover, the communications between Sandbox and the patent examiner contain no discussion of the '785 patent's descriptions of "metering" and "control[ing]" the "discharge of proppant . . . onto the conveyor" so that a "portion of the proppant" can be discharged onto the conveyor in a "selected and controlled" manner (Dkt. 103-3 at p. 16). These descriptions would be superfluous if Sandbox had disclaimed conveying before all proppant in the containers has been discharged; there is no need to selectively discharge a portion of proppant onto the conveyor belt if the belt is not going to run until all of the proppant is discharged anyway.

Sandbox, when it amended its claims, disclaimed conveying during discharge, i.e. running the conveyor belt while the container gates are open and proppant is being discharged from the containers. But the record does not include a clear and unambiguous disclaimer of running the conveyor belt before all of the proppant in the containers is discharged. Neither Sandbox nor the patent examiner said in the communications between them that a particular amount of the proppant in the containers—let alone all of it—must be discharged before conveying begins. *Cf. ACCO Brands, Inc. v. Micro Sec. Devices, Inc.*, 346 F.3d 1075, 1078–79 (Fed. Cir. 2003) ("We conclude that the pin clause of claim 10 must be construed in the same way as the pin clause of claim 1, for the examiner's Reasons for Allowance make clear that the examiner and the applicant understood that the invention requires that the pin extends (actively) into the slot after

rotation.”). And, without support in the record, “[s]uch a draconian preclusion would be beyond a fair interpretation of what was surrendered.” *Intervet*, 617 F.3d at 1292 (“Merial is not, however, estopped from arguing that a pathogenic porcine viral sequence with over 99% nucleotide homology with one of the five representative strains is equivalent to that strain. . . . The rationale for the amendment was to narrow the claimed universe of ORFs down to those of PCV-2, and bore only a tangential relation to the question of which DNA sequences are and are not properly characterized as PCV-2.”).

2. The term “structural support members” in the ‘785 patent: The Court concludes that a person of ordinary skill in the art would understand the term “structural support members” to refer to structural fortifications to the end walls and sidewalls of an existing ocean freight container that are placed between the container’s end frame members, but the Court declines to construe the term further.

The next requested claim construction asks the Court to examine the term “structural support members.” Sandbox argues that the term “structural support members” should be given its “plain and ordinary meaning,” while Grit argues that the term should be construed as requiring that the structural support members be “separate and distinct from the walls and container edges” and “positioned to span the end walls and the sidewalls between outside edge frame members” (Dkt. 111 at pp. 38–39).

The Court’s analysis here is similar to the one the Court employed for the terms “support braces” and “structural supports” in the ‘518, ‘626, and ‘929 patents. “Structural support members” are described in Claim 1 (and other claims) of the ‘785 patent as:

a plurality of structural support members positioned to span the end walls and the sidewalls between end frame members to enhance support of the end walls and the side walls when the proppant container is full of fracking proppant.

Dkt. 103-3 at p. 18.

Like the container described in the ‘518, ‘626, and ‘929 patents, the “proppant container” described in this portion of the ‘785 patent is a modified ocean freight container—specifically, a “ten-foot ISO container” (Dkt. 103-3 at pp. 14, 15, 17). The “structural support members” constitute one of the modifications; as depicted in the diagrams and described in the specification of the ‘785 patent, the “structural support members” encircle the sidewalls and end walls of the ocean freight container to form a “cage-like configuration around the walls” (Dkt. 103-3 at pp. 6, 15). While applying for the patent, Sandbox claimed that the “cage-like configuration” of structural support members:

is advantageous because it allows the containers to be filled with proppant without compromising the structural integrity of the container. For example, in some embodiments, each container may carry up to about 45,000 lbs of fracking proppant or more. Such large amounts of proppant within the containers exerts a great outward force on the end walls and side walls of the containers, which outward force can cause the containers to deform if not structurally reinforced. Such deformation, however, is prevented by the structural support members that surround the containers, and that span the end walls and the side walls of the containers between edges of the containers.

Dkt. 111-27 at p. 17.

In light of the intrinsic evidence, the Court concludes that a person of ordinary skill in the relevant art would understand the term “structural support members” to refer to structural fortifications to the end walls and sidewalls of an existing ocean freight container that are placed between the container’s end frame members. The Court declines to construe the term further.

3. The term “support structure” in the ‘785 patent: The Court concludes that a person of ordinary skill in the art would understand the term “support structure” to refer to a frame upon which separate containers can be removably positioned.

The next requested claim construction asks the Court to examine the term “support structure.” Sandbox argues that the term “support structure” should be defined as “a frame upon which separate containers can be removably positioned” (Dkt. 103 at p. 31). Grit concedes that Sandbox’s proposed construction is part of the proper definition but would further define “support structure” as a structure that is equipped not only to support the proppant storage containers but also to open their gates using an actuator that is affixed to the support structure (Dkt. 111 at pp. 47–48). Sandbox contends that Grit’s proposed construction of “support structure” is forestalled by the doctrine of claim differentiation.

On the intrinsic evidence in this record, Sandbox is correct. “[T]he doctrine [of claim differentiation], which is ultimately based on the common sense notion that different words or phrases used in separate claims are presumed to indicate that the claims have different meanings and scope, normally means that limitations stated in dependent claims are not to be read into the independent claim from which they depend.”

Karlin Tech., Inc. v. Surgical Dynamics, Inc., 177 F.3d 968, 971–72 (Fed. Cir. 1999) (citations omitted); *see also Phillips*, 415 F.3d at 1315 (“[T]he presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.”). In the ‘785 patent, an independent claim, Claim 1, describes the “support structure” as:

including a plurality of cradles that correspond to the plurality of proppant containers transferred thereto, the common conveyor being positioned to underlie and to be spaced-apart from each of the plurality of cradles[.] Dkt. 103-3 at p. 18.

Claim 2, which is dependent on Claim 1, then describes the “support structure [as] further compris[ing] . . . a receptacle positioned to engage a gate positioned over the outlet of the proppant container, the gate being operatively coupled to an actuator to drive movement of the gate between an open position and a closed position” (Dkt. 103-3 at p. 18).

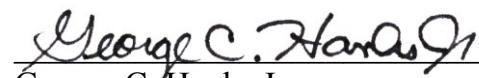
“The juxtaposition of independent claims lacking any reference to [an actuator] with dependent claims that add [an actuator] limitation provides strong support for [Sandbox’s] argument that the independent claims were not intended to require the presence of [an actuator].” *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004). Grit has not rebutted the “presumption that the [actuator] limitation in question is not found in the independent claim.” *Id.* Although Grit points out that the actuator limitation is included in a preferred embodiment of the invention, this alone does not overcome the presumption erected by the claim differentiation doctrine. *Karlin*, 177 F.3d at 971–72; *see also Comark Commc’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (“To interpret the term ‘video delay circuit’ to mean a video delay circuit that compensates for the delay introduced by the IF vision modulator, as Harris suggests, would render claim 2 completely superfluous and redundant of claim 1. Harris has not shown any reason sufficient to rebut the presumption that claim 1 should not be so limited in order to preserve the distinction between claims 1 and 2. Consequently, we

decline Harris's invitation to limit the term 'video delay circuit' to the specific function disclosed in the preferred embodiment[.]"). The Court concludes that a person of ordinary skill in the art would understand the term "support structure" to refer to a frame upon which separate containers can be removably positioned.

V. CONCLUSION

The foregoing opinion represents the Court's construction of certain claims and terms under *Markman* and *Phillips*.

SIGNED at Galveston, Texas, this 9th day of July, 2018.



George C. Hanks Jr.
United States District Judge